Data transformations, aggregations and transfer functions for modelling biological and ecological complexities

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Talk Abstract

Biological and ecological systems offer a lot of complexity which should be well understood before we can make valuable regulations. We will address both complex and extreme measurements from given systems. There is a necessity to classify appropriate learning mechanisms and define transfer functions and statistics. I will address learning mechanisms of data transformation and aggregation [3]. In particular, I will introduce SPOCU transfer function [1] and provide some of its unique properties for processing of complex data. Statistical learning will be discussed and tuning of parameters of SPOCU based neural networks will be given. Attractive applications to biological systems e.g. mass balance in the ecosystem of glaciers in Patagonia [2], or methane emissions from wetlands will be addressed.

Keywords: complexity, networks, ecology.

References

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